



>>Entry Name: Sulfur trioxide, 11CI

Synonym(s): Sulfur oxide (SO₃). Sulfan. Sulfuric anhydride

CAS Registry Number: 7446-11-9

Extra CAS Registry Numbers(s): 12624-32-7

SO₃ (*D*_{3h})

Molecular Formula: O₃S

Molecular Weight: 80.064

Accurate Mass: 79.956815

Percentage Composition: O 59.95%; S 40.05%

Source/Synthesis: Synth. by catalyt. oxidn. of SO₂

Use/Importance: Commercially available. Prepared on a vast scale for conversion into H₂SO₄. Powerful sulfonating agent

Physical Description: Colourless liq. fumes in air

Melting Point: Mp 16.8° (γ-form). Mp 32.5° (β-form). Mp 62.3° (α-form)

Boiling Point: Bp 44.8°

Other Data: Anhydride of H₂SO₄. *T*_{crit} 217.8°, *P*_{crit} 81 atm

Hazard & Toxicity: Highly toxic, corrosive, combines with H₂O explosively. May react explosively with chlorinated solvs. Forms phosgene with CCl₄

Aldrich: 42547-8

References:

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Clark, A.H. *et al.*, *Trans. Faraday Soc.*, 1971, **67**, 2216, (struct)

Kaldor, A. *et al.*, *J. Mol. Struct.*, 1973, **15**, 123, (struct)

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Gibert, E.E., *Chem. Eng. News*, 1989, **67**, 2, (haz)

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